

WEST Search History

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		<i>DB=USPT; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L28	L27 and l18	3
<input type="checkbox"/>	L27	l22 same (self adj (describ\$ or contain\$))	22
<input type="checkbox"/>	L26	L25 and l22	2
<input type="checkbox"/>	L25	(rpc or (remot\$ adj procedur\$ adj call\$)) same (self adj (describ\$ or contain\$))	7
<input type="checkbox"/>	L24	l23 same (self adj (describ\$ or contain\$))	1
<input type="checkbox"/>	L23	l22 same (rpc or (remot\$ adj procedur\$ adj call\$))	113
<input type="checkbox"/>	L22	dcom or (distribut\$ com) or (distribut\$ adj component adj object adj model\$)	476
<input type="checkbox"/>	L21	(object\$ near4 (self adj (describ\$ or contain\$))) same (rpc or (remot\$ adj procedur\$ adj call\$))	2
<input type="checkbox"/>	L20	5764915[pn]	1
<input type="checkbox"/>	L19	l13 and l18	4
<input type="checkbox"/>	L18	719/311-332[ccls]	2286
<input type="checkbox"/>	L17	l13 and L16	0
<input type="checkbox"/>	L16	719/318[ccls]	190
<input type="checkbox"/>	L15	(object\$ near4 (self adj (describ\$ or contain\$))) same ((defer\$ or delay\$ or laten\$) near4 (rebuild\$ or reconstruct\$ or build\$ or construct\$))	2
<input type="checkbox"/>	L14	L13 and l4	2
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<input type="checkbox"/>	L8	719/330[ccls]	85
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		<i>DB=USPT; PLUR=YES; OP=ADJ</i>	



US006212578B1

(12) **United States Patent**
Racicot et al.

(10) **Patent No.:** **US 6,212,578 B1**
 (45) **Date of Patent:** **Apr. 3, 2001**

(54) **METHOD AND APPARATUS FOR
 MANAGING DEPENDENCIES IN A
 DISTRIBUTED COMPUTING
 ENVIRONMENT FOR ENSURING THE
 SAFETY OF REMOTE PROCEDURE CALLS**

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(*) **Notice:** Subject to any disclaimer, the term of this
 patent is extended or adjusted under 35
 U.S.C. 154(b) by 0 days.

(21) **Appl. No.:** 08/711,772

(22) **Filed:** Sep. 9, 1996

(51) **Int. Cl.⁷** G06F 1/12

(52) **U.S. Cl.** 709/330

(58) **Field of Search** 395/684; 709/300-305;
 713/100

(56) **References Cited**

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Primary Examiner—Alvin E. Oberley

Assistant Examiner—St. John Courtenay, III

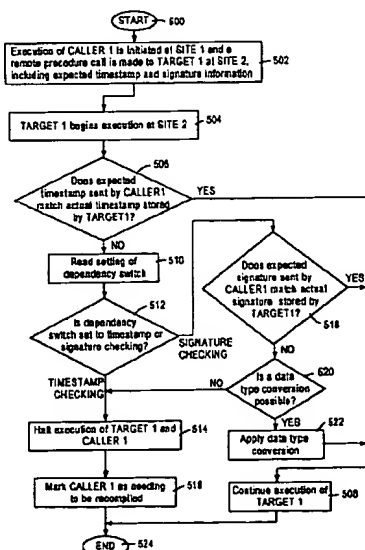
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(57) **ABSTRACT**

A method and apparatus for managing dependencies in a
 distributed environment to ensure the safety of remote
 procedure calls is disclosed. Each remote procedure call
 between a calling procedure and a target procedure includes
 an expected time stamp and expected signature associated
 with the target procedure. The expected time stamp contains
 the creation time of the target procedure at the time the
 calling procedure was last compiled. The expected signature
 contains data type information of the target procedure for-
 mal parameters at the time the calling procedure was last
 compiled.

The target procedure compares the expected time stamp to
 an actual time stamp maintained by the target procedure. If
 the two time stamps do not match, the target procedure
 compares the expected signature and an actual signature
 maintained by the target procedure to determine whether the
 data types of the formal parameters sent by the calling
 procedure are compatible with the data types expected by
 the target procedure. If the data types are compatible, then
 execution of the target procedure continues.

41 Claims, 6 Drawing Sheets



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L25: Entry 4 of 7

File: USPT

Apr 3, 2001

DOCUMENT-IDENTIFIER: US 6212578 B1

TITLE: Method and apparatus for managing dependencies in a distributed computing environment for ensuring the safety of remote procedure calls

Brief Summary Text (7):

Historically, several approaches have been used to manage dependencies in distributed computing environments to ensure compatibility during remote procedure calls. Four of these include (1) synchronized installation; (2) time stamps; (3) self-describing data; and (4) data type encoding.

Brief Summary Text (13):

Perhaps the most widely used approach for ensuring the safety of remote procedure calls in distributing computing environments is the use of self-describing data. With this approach, additional data is included in each remote procedure call which fully describes each parameter. This data typically includes type, mode, constraints, and any other meta-data required to fully describe the parameter and ensure correctness.

Brief Summary Text (15):

However, the self-describing data approach adversely affects performance in two ways. First, the self-describing data greatly increases the amount of data being passed in each remote procedure call. Secondly, the data type information is typically interleaved with the parameters, requiring that all of the parameters be checked before compatibility can be confirmed. Consequently, a difference in the last parameter will not be detected until all of the other parameters have been checked.



US006651099B1

(12) **United States Patent**
Dietz et al.

(10) Patent No.: **US 6,651,099 B1**
(45) Date of Patent: **Nov. 18, 2003**

(54) **METHOD AND APPARATUS FOR
MONITORING TRAFFIC IN A NETWORK**

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(List continued on next page.)

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Primary Examiner—Moustafa M. Mcky

(74) Attorney, Agent, or Firm—Dov Rosenfeld; Inventek

(57) ABSTRACT

A monitor for and a method of examining packets passing through a connection point on a computer network. Each packets conforms to one or more protocols. The method includes receiving a packet from a packet acquisition device and performing one or more parsing/extraction operations on the packet to create a parser record comprising a function of selected portions of the packet. The parsing/extraction operations depend on one or more of the protocols to which the packet conforms. The method further includes looking up a flow-entry database containing flow-entries for previously encountered conversational flows. The lookup uses the selected packet portions and determining if the packet is of an existing flow. If the packet is of an existing flow, the method classifies the packet as belonging to the found existing flow, and if the packet is of a new flow, the method stores a new flow-entry for the new flow in the flow-entry database, including identifying information for future packets to be identified with the new flow-entry. For the packet of an existing flow, the method updates the flow-entry of the existing flow. Such updating may include storing one or more statistical measures. Any stage of a flow, state is maintained, and the method performs any state processing for an identified state to further the process of identifying the flow. The method thus examines each and every packet passing through the connection point in real time until the application program associated with the conversational flow is determined.

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 589 days.

(21) Appl. No.: **09/608,237**

(22) Filed: **Jun. 30, 2000**

Related U.S. Application Data

(60) Provisional application No. 60/141,903, filed on Jun. 30, 1999.

(51) Int. Cl.⁷ **G06F 13/00**

(52) U.S. Cl. **709/224; 370/389**

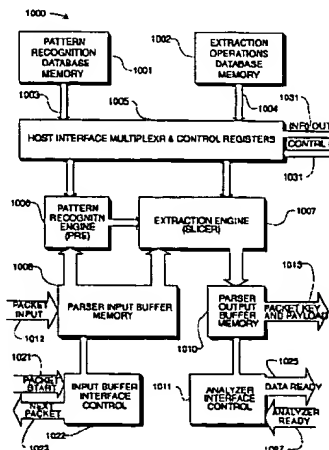
(58) Field of Search **709/200, 201,**
709/220, 223, 224, 231, 232, 236, 238,
239, 240, 246; 370/389, 392, 395.32

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5,351,243 A	9/1994	Kalkunte et al.	370/92
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10 Claims, 18 Drawing Sheets



DCor
RPC's that
allow self-contained
objects

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L21: Entry 1 of 2

File: USPT

Nov 18, 2003

DOCUMENT-IDENTIFIER: US 6651099 B1

TITLE: Method and apparatus for monitoring traffic in a network

Brief Summary Text (12):

Other protocols that may lead to disjointed flows, include RPC (Remote Procedure Call); DCOM (Distributed Component Object Model), formerly called Network OLE (Microsoft Corporation, Redmond, Wash.); and CORBA (Common Object Request Broker Architecture). RPC is a programming interface from Sun Microsystems (Palo Alto, Calif.) that allows one program to use the services of another program in a remote machine. DCOM, Microsoft's counterpart to CORBA, defines the remote procedure call that allows those objects--objects are self-contained software modules--to be run remotely over the network. And CORBA, a standard from the Object Management Group (OMG) for communicating between distributed objects, provides a way to execute programs (objects) written in different programming languages running on different platforms regardless of where they reside in a network.